

COUPLER ASSEMBLY FOR AN OPTICAL BACKPLANE SYSTEM

ABSTRACT OF THE DISCLOSURE

A coupler assembly for an optical backplane system having a backplane and two
5 or more circuit packs connected to that backplane. Each circuit pack has an optical
transceiver and the backplane has an optical pipe (e.g., an array of waveguides) adapted
to guide optical signals between the transceivers of different circuit packs. A coupler
assembly is provided for each transceiver to couple light between that transceiver and the
optical pipe. Advantageously, the coupler assembly has a movable optical element that
10 can accommodate possible misalignment between the backplane and the circuit pack. In
one embodiment, the movable optical element is an array of MEMS mirrors, each mirror
adapted to direct light between an optical transmitter or receiver and the corresponding
waveguide of the optical pipe. In another embodiment, the movable optical element is an
array of flexible optical fibers, each coupled between an optical transmitter or receiver
15 and the corresponding waveguide of the optical pipe and having an angled surface
adapted to couple light between said fiber and waveguide.